



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/915,174	07/25/2001	Jon Nash-Putnam	015471-0000 - B72625	6241

7590 11/22/2005

Roger W. Westman
693 Old Squaw Pass Road
Evergreen, CO 80439

EXAMINER

BAUM, RONALD

ART UNIT	PAPER NUMBER
----------	--------------

2136

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/915,174		NASH-PUTNAM, JON	
	Examiner		Art Unit	
	Ronald Baum		2136	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in reply to applicant's correspondence of 19 August 2005.
2. Claims 1-20 are pending for examination.
3. Claims 1-20 are rejected.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Wolfgang et al, U.S. Patent 6,625,295 B1.

4. As per claim 1; "A system for the insertion of microthreads [watermark(s)] in transmitted data comprising:

a digital content system providing carrier data; and [figures 1-6 and associated descriptions, abstract, col. 1, lines 25-col. 4, line 67, whereas the watermark generation/insertion and original signal aspects, clearly encompasses the "...digital content ... carrier data ...", as broadly interpreted by the examiner];

a microthread insertion system coupled to the digital content system, the microthread insertion system generating

a composite data sequence in real time for transmission that includes the carrier data and

the microthread data;

wherein the microthread data is camouflaged in real time in the composite data sequence using the carrier data [figures 1-6 and associated descriptions, abstract, col. 1, lines 25- col. 4, line 67, whereas the watermark generation/camouflaged via encryption (i.e., made visually imperceptible)/insertion and original signal aspects, clearly encompasses the "... microthread insertion ... carrier data ... camouflaged ... carrier data ...", as broadly interpreted by the examiner]."

5. Claim 2 ***additionally recites*** the limitation that; "The system of claim 1 wherein the microthread data insertion system further comprises

a key encryption system encrypting the microthread data prior to forming the composite data sequence."

The teachings of Wolfgang et al are directed towards such limitations (i.e., figures 1-6 and associated descriptions, abstract, col. 1, lines 25-col. 4, line 67, col. 9, lines 51-col. 11, line 38, whereas the watermark generation/camouflaged via encryption (i.e., made visually imperceptible, and inclusive of the third party hash certificate functional aspects)/insertion and original signal aspects, clearly encompasses the "...key encryption ... microthread data ... composite data sequence ...", as broadly interpreted by the examiner.).

Art Unit: 2136

6. As per claim 7, this claim is the method claim for the apparatus/system claims 1,2 above, and is rejected for the same reasons provided for the claim 1,2 rejections, as such; “A method for inserting microthread data in transmitted data comprising:

Receiving

microthread data and

carrier data;

encrypting the microthread as encrypted microthread data;

camouflaging the encrypted microthread data in real time using the carrier data to

generate camouflaged microthread data; and

forming a composite data sequence in real time for transmission that includes

the carrier data; and

the camouflaged microthread data.”

7. Claim 3 ***additionally recites*** the limitation that; “The system of claim 1 wherein the microthread data insertion system further comprises

a camouflage system

receiving

the microthread data and

the carrier data and

performing a mathematical operation using

the microthread data and

the carrier data to generate camouflaged microthread data.”

Art Unit: 2136

The teachings of Wolfgang et al are directed towards such limitations (i.e., figures 1-6 and associated descriptions, abstract, col. 1, lines 25-col. 4, line 67, col. 9, lines 51-col. 11, line 38, whereas the watermark generation/camouflaged via encryption (i.e., made visually imperceptible, and inclusive of the third party hash certificate functional aspects, both aspects in of themselves constitute mathematical operations upon the microthread data and carrier data)/insertion and original signal aspects, clearly encompasses the "... microthread insertion ... camouflage system ... microthread data ... carrier ... mathematical operation ... camouflaged microthread data", as broadly interpreted by the examiner.);

Further, as per claim 9, this claim is the method claim for the apparatus/system claim 3 above, and is rejected for the same reasons provided for the claim 3 rejection, as such; "The method of claim 7 wherein camouflaging the microthread data using the carrier data comprises performing a mathematical operation using the encrypted microthread data and the carrier data."

8. Claim 4 ***additionally recites*** the limitation that; "The system of claim 1 wherein the microthread data insertion system further comprises

a carrier length system

determining whether the carrier data is long enough to carry the microthread data

and

duplicating the carrier data [i.e., padding] if the carrier data is not long enough."

Art Unit: 2136

The teachings of Wolfgang et al are directed towards such limitations (i.e., figures 1-6 and associated descriptions, abstract, col. 1, lines 25-col. 4, line 67, col. 7, lines 4-col. 11, line 38, whereas the watermark generation/camouflaged via encryption (and hashing, etc.)/insertion (and associated original data content signal modification so as to accommodate the watermarking) and original signal aspects, clearly encompasses the "... microthread insertion ... carrier length ... long enough ... duplicating ... data [i.e., padding] ... not long", as broadly interpreted by the examiner.);

Further, as per claim 8, this claim is the method claim for the apparatus/system claim 4 above, and is rejected for the same reasons provided for the claim 4 rejection, as such; "The method of claim 7 wherein receiving the carrier data further comprises:

determining a length of the carrier data; and

duplicating the carrier data until the length of the duplicated carrier data is long enough to carry the microthread data."

9. Claim 5 *additionally recites* the limitation that; "The system of claim 1 wherein the microthread data insertion system further comprises;

a camouflaged microthread insertion system

receiving the microthread data and

inserting the microthread data into the carrier data at one or more locations."

The teachings of Wolfgang et al are directed towards such limitations (i.e., figures 1-6 and associated descriptions, abstract, col. 1, lines 25-col. 4, line 67, col. 7, lines 4-col. 11, line 38,

Art Unit: 2136

whereas the watermark generation/camouflaged via encryption (and hashing, etc.,)/insertion (and associated original data content signal modification, such as '[the] dividing the signal into portions, such as an array of pixels in an array into sub-arrays ... authentication of a portion of the signal ...', so as to accommodate the watermarking) and original signal aspects, clearly encompasses the "... microthread insertion ... carrier data at one or more locations", as broadly interpreted by the examiner.);

Further, as per claim 11, this claim is the method claim for the apparatus/system claim 5 above, and is rejected for the same reasons provided for the claim 5 rejection, as such; "The method of claim 7 wherein camouflaging the microthread data using the carrier data comprises storing the microthread data in one or more predetermined data frame locations."

10. Claim 6 *additionally recites* the limitation that; "The system of claim 3 wherein the camouflage system further comprises

a difference system generating camouflaged microthread data by generating two successive sections of carrier data having a difference equal to an integer times the microthread data."

The teachings of Wolfgang et al are directed towards such limitations (i.e., figures 1-6 and associated descriptions, abstract, col. 1, lines 25-col. 4, line 67, col. 7, lines 4-col. 11, line 38, whereas the watermark generation/camouflaged /insertion (and associated original data content signal modification, such as '[the] dividing the signal into portions, such as an array of pixels in an array into sub-arrays ... authentication of a portion of the signal ...', so as to accommodate

Art Unit: 2136

the watermarking) and original signal aspects, clearly encompasses the "...difference ... camouflaged ... integer times the microthread data", as broadly interpreted by the examiner. Further, the use of the phrase "having a difference equal to an integer times", likewise as broadly interpreted by the examiner, in not specifying what parameters or relative mathematical properties of such parameters a 'difference' pertains to, thereby allowing for said broad interpretation of the reference relative to the watermark/original data relationship.);

Further, as per claim 10, this claim is the method claim for the apparatus/system claim 6 above, and is rejected for the same reasons provided for the claim 6 rejection, as such; "The method of claim 7 wherein camouflaging the microthread data using the carrier data comprises generating two successive sections of carrier data having a difference equal to an integer times the microthread data."

11. Claim 12 *additionally recites* the limitation that; "The method of claim 7 wherein forming the composite data sequence that includes the carrier data and the camouflaged microthread data comprises:

storing

the microthread data and

locator data in a first data frame location;

using the locator data to determine a second data frame location; and

storing the microthread in the second data frame location."

Art Unit: 2136

The teachings of Wolfgang et al are directed towards such limitations (i.e., figures 1-6 and associated descriptions, abstract, col. 1, lines 25-col. 4, line 67, col. 7, lines 4-col. 11, line 38, whereas the watermark generation/camouflaged /insertion (and associated original data content signal modification, such as '[the] dividing the signal into portions, such as an array of pixels in an array into sub-arrays ... authentication of a portion of the signal ...', so as to accommodate the watermarking) and original signal aspects, clearly encompasses the "... composite data sequence ... locator data in a first data frame location ... second ... location", as broadly interpreted by the examiner. Further, the use of the phrase "locator data to determine a second data frame location", likewise as broadly interpreted by the examiner, in not specifying what parameters or relative mathematical properties of such parameters a 'determin[ation]' pertains to, thereby allowing for said broad interpretation of the reference relative to the watermark/original data relationship in the context of the inter (i.e., 1st, 2nd, sequential, etc.) blocks/frames (i.e., at the very least for the video instances) relative to inserted watermarks.).

12. Claim 13 *additionally recites* the limitation that; "The method of claim 7 wherein forming the composite data sequence that includes the carrier data and the camouflaged microthread data comprises

storing the camouflaged microthread data at one or more predetermined locations based on a predetermined data sequence of the carrier data."

The teachings of Wolfgang et al are directed towards such limitations (i.e., figures 1-6 and associated descriptions, abstract, col. 1, lines 25-col. 4, line 67, col. 7, lines 4-col. 11, line 38, whereas the watermark generation/camouflaged /insertion (and associated original data content

Art Unit: 2136

signal modification, such as '[the] dividing the signal into portions, such as an array of pixels in an array into sub-arrays ... authentication of a portion of the signal ...', so as to accommodate the watermarking) and original signal aspects, clearly encompasses the "... composite data sequence ... predetermined locations ... predetermined data sequence of the carrier data", as broadly interpreted by the examiner. Further, the use of the phrase "locations based on a predetermined data sequence", likewise as broadly interpreted by the examiner, in not specifying what parameters or relative mathematical properties of such parameters a 'predetermined' pertains to, thereby allowing for said broad interpretation of the reference relative to the watermark/original data relationship in the context of the inter (i.e., 1st, 2nd, sequential, etc.,) blocks/frames (i.e., at the very least for the video instances) relative to inserted watermark locations within the content data stream.).

13. Claim 14 ***additionally recites*** the limitation that; "The method of claim 13 wherein the predetermined data sequence of the carrier data is a predetermined magnitude of change in two successive data values."

The teachings of Wolfgang et al are directed towards such limitations (i.e., figures 1-6 and associated descriptions, abstract, col. 1, lines 25-col. 4, line 67, col. 7, lines 4-col. 11, line 38, whereas the watermark generation/camouflaged /insertion (and associated original data content signal modification, such as '[the] dividing the signal into portions, such as an array of pixels in an array into sub-arrays ... authentication of a portion of the signal ...', so as to accommodate the watermarking) and original signal aspects, clearly encompasses the "...predetermined ... carrier ... predetermined magnitude of change in two successive data values", as broadly

Art Unit: 2136

interpreted by the examiner. Further, the use of the phrase “predetermined magnitude of change in two successive data values”, likewise as broadly interpreted by the examiner, in not specifying what parameters or relative mathematical properties of such parameters a ‘magnitude of change’ pertains to, thereby allowing for said broad interpretation of the reference relative to the watermark/original data relationship in the context of the inter (i.e., 1st, 2nd, sequential, etc.,) blocks/frames (i.e., at the very least for the video instances) relative to inserted watermark locations within the content data stream.).

14. As per claim 15, this claim is the “receive and recover/verify” side of the claim 7 “create thread/watermark, insert, transmit” limitations above, and is rejected for the same reasons provided for the claim 7 rejection, as such; “A method for retrieving microthread data from transmitted data comprising:

receiving transmitted data that is a composite data sequence that includes

carrier data and

camouflaged microthread data;

locating the camouflaged microthread data in real time using a flag;

extracting the camouflaged microthread data in real time; and

extracting the microthread data from the camouflaged microthread data in real time.”

15. Claim 16 ***additionally recites*** the limitation that; “The method of claim 15 further comprising

performing one or more predetermined actions in real time using the microthread data.”

Art Unit: 2136

The teachings of Wolfgang et al are directed towards such limitations (i.e., figures 1-6 and associated descriptions, abstract, col. 1, lines 25-col. 4, line 67, col. 9, lines 51-col. 11, line 38, whereas the watermark generation/camouflaged and subsequent recovery via encryption /decryption, and original signal aspects (i.e., such as the whole point of watermarking for copyright/authentication/DRM), clearly encompasses the "... one or more predetermined actions ... microthread data ...", as broadly interpreted by the examiner.).

16. Claim 17 *additionally recites* the limitation that; "The method of claim 15 wherein locating the camouflaged microthread data using the flag comprises

locating a predetermined characteristic of the carrier data."

The teachings of Wolfgang et al are directed towards such limitations (i.e., figures 1-6 and associated descriptions, abstract, col. 1, lines 25-col. 4, line 67, col. 9, lines 51-col. 11, line 38, whereas the watermark generation/camouflaged and subsequent recovery via encryption /decryption, and original signal aspects (i.e., such as the whole point of watermarking for copyright/authentication/DRM of the carrier data), clearly encompasses the "... locating ... data ... flag ... locating ... characteristic of the carrier data ...", as broadly interpreted by the examiner.).

17. Claim 18 *additionally recites* the limitation that; "The method of claim 17 wherein the predetermined characteristic is a change in two successive values of data that exceeds a predetermined amount."

Art Unit: 2136

The teachings of Wolfgang et al are directed towards such limitations (i.e., figures 1-6 and associated descriptions, abstract, col. 1, lines 25-col. 4, line 67, col. 9, lines 51-col. 11, line 38, whereas the watermark generation/camouflaged and subsequent recovery via encryption /decryption, and original signal aspects (i.e., such as the whole point of watermarking for copyright/authentication/DRM of the carrier data), clearly encompasses the "... predetermined ... change in two successive values ... exceeds a predetermined amount ...", as broadly interpreted by the examiner.). Further, the use of the phrase "change in two successive values", likewise as broadly interpreted by the examiner, in not specifying what parameters or relative mathematical properties of such parameters a 'change in two successive values' pertains to, thereby allowing for said broad interpretation of the reference relative to the watermark/original data relationship in the context of the inter (i.e., 1st, 2nd, sequential, etc.) blocks/frames (i.e., at the very least for the video instances) relative to inserted watermark associated "predetermined characteristic" within the content data stream.).

18. Claim 19 *additionally recites* the limitation that; "The method of claim 17 wherein the predetermined characteristic is a data frame location."

The teachings of Wolfgang et al are directed towards such limitations (i.e., figures 1-6 and associated descriptions, abstract, col. 1, lines 25-col. 4, line 67, col. 9, lines 51-col. 11, line 38, whereas the watermark generation/camouflaged and subsequent recovery via encryption /decryption, and original signal aspects (i.e., such as the whole point of watermarking for copyright/authentication/DRM of the carrier data), clearly encompasses the "... predetermined ... data frame location ...", as broadly interpreted by the examiner.). Further, the use of the

Art Unit: 2136

phrase “data frame location”, likewise as broadly interpreted by the examiner, in not specifying what parameters or relative mathematical properties of such parameters a ‘data frame location’ pertains to, thereby allowing for said broad interpretation of the reference relative to the watermark/original data relationship in the context of the inter (i.e., 1st, 2nd, sequential, etc.,) blocks/frames (i.e., at the very least for the video instances) relative to inserted watermark locations within the content data stream.).

19. As per claim 20, this claim is the “receive and recover/verify” side of the claim 9 “create thread/watermark, insert, transmit” limitations above, and is rejected for the same reasons provided for the claim 9 rejection, as such; “The method of claim 15 wherein extracting the microthread data from the camouflaged microthread data comprises performing a mathematical operation on the camouflaged microthread data.”

Response to Amendment

22. As per applicant's argument concerning the lack of teaching by Wolfgang et al of a finer granularity of watermark/microthread insertion into the data content, the examiner has fully considered in this response to amendment; the arguments, and finds them not to be persuasive. The claim language is not directed to such granularity aspects of the watermark/microthread as so inserted into the data content, either explicitly or implicitly.

23. As per applicant's argument concerning the lack of teaching by Wolfgang et al of the "... in real time", the examiner has fully considered in this response to amendment; the arguments, and finds them not to be persuasive for at least the same analogous reasons as described above for the "granularity" aspect. The examiner interprets the applicant's use of the phrase "in real time" in the broader sense in that the claim language fails to deal with the granularity of which the real time limitation would be applied (i.e., the size of bulk data transfer/processing per unit time where the time component is directed towards minimization). Nowhere in the claim language does the recitation of a requirement for an explicit claiming of the differentiation aspect concerning the various types of transfer rates, which would clearly be directed to the implicit/explicit aspect of "... in real time". The examiner disagrees that figure 2 teaches that transfer of the watermarked data content "is clearly not done in real time", since the sequential processing in the broadest sense as is taught in figure 2 deals with the procedure-wise steps of watermark processing versus the transfer rate (i.e., real time versus non real time). Therefore, as being *broadly interpreted by the examiner*, as per the claim language, would therefore be

Art Unit: 2136

applicable in the rejection, such that the rejection support reference collectively encompass the said claim limitations in their entirety.

24. As per applicant's argument concerning the lack of teaching by Wolfgang et al of the "... receive/recover/verify..." aspects of watermark processing, the examiner has fully considered in this response to amendment; the arguments, and finds them not to be persuasive in that the reference clearly inherently applies at both the source and destination side of the watermarking processing of the embodiment, as broadly interpreted by the examiner.

25. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

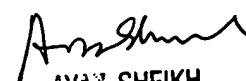
26. Any inquiry concerning this communication or earlier communications from examiner should be directed to Ronald Baum, whose telephone number is (571) 272-3861, and whose unofficial Fax number is (571) 273-3861. The examiner can normally be reached Monday through Thursday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh, can be reached at (571) 272-3795. The Fax number for the organization where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. For more information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ronald Baum
Patent Examiner




AYAZ SHEIKH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100